-- DETAILED DESCRIPTION--

IN THE CLAIMS:

Please cancel claims 1-7.

Please add claims 8-15.

-- 8. (New) A method of fabricating a barrier layer, the method comprising:

oxidizing a silicon-containing substrate to form a substrate oxide layer on the surface of the substrate;

producing an oxygen-impervious layer at an interface between the substrate oxide layer and the substrate; and

etching the substrate oxide layer until the underlying oxygen-impervious layer is uncovered.

9. (New) The method of claim 8, further comprising:

depositing a metal layer on a surface of the oxygen-impervious layer; and

thermally oxidizing the metal layer;

wherein the oxygen-impervious layer forms a barrier to the formation of metal silicide compounds between the deposited metal layer and the substrate.

10. (New) The method of claim 8, further comprising:

providing the oxygen-impervious layer by exposing the substrate oxide layer to a nitrogen-based gas, the oxygen impervious layer comprising a substrate-nitrogen compound.

11. (New) The method of claim 10, further comprising:

selecting the nitrogen-based gas from the group consisting of a N_2 gas, an N_2O gas, an NO gas and an NH_3 gas.

12. (New) The method of claim 10, further comprising:

selecting the substrate-nitrogen compound to include a silicon nitride.

13. (New) The method of claim 10, further comprising:

selecting the substrate-nitrogen compound to include silicon oxynitride.

14. (New) The method of claim 10, further comprising:

etching the substrate oxide layer in a wet-chemical etching process.

15. (New) The method of claim 10, further comprising:

etching the substrate oxide layer in a dry etching process.

16. (New) A method of fabricating a barrier layer, the method comprising

implanting nitrogen ions into a silicon-containing substrate;

oxidizing the substrate to form a substrate oxide layer and an oxygen-impervious layer, the oxygen impervious layer comprising a substrate-nitrogen compound; and

etching the substrate oxide layer until the underlying oxygen-impervious layer is uncovered.

17. (New) The method of claim 16, further comprising:

selecting the substrate-nitrogen compound to include a silicon nitride.

18. (New) The method of claim 16, further comprising:

selecting the substrate-nitrogen compound to include silicon oxynitride.

19. (New) the method of claim 16, further comprising:

depositing a metal layer on a surface of the oxygen-impervious layer; and

thermally oxidizing the metal layer;

wherein the oxygen-impervious layer forms a barrier to the formation of metal silicide compounds between the deposited metal and the substrate. --